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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/823,852

04/14/2004

Richard P. Merry

59625US002

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05/16/2007

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EXAMINER

NGUYEN, HUY TRAM

ART UNIT

PAPER NUMBER

1709

NOTIFICATION DATE

DELIVERY MODE

05/16/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/823,852	MERRY, RICHARD P.	
	Examiner	Art Unit	
	Huy-Tram Nguyen	1709	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :July 20, 2005, June 15, 2005 and June 17, 2004.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-19, drawn to Multilayer Mats and devices using the Mats, classified in class 422, subclass 179.
- II. Claim 20, drawn to method of making the Multilayer Mat, classified in class 29, subclass 890.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by different method. For example, US Patent No. 6,458,418 B2 teaches a multilayer sheet can be made by depositing on slurry onto a permeable substrate to form one layer on the substrate and then depositing the next slurry onto the first layer to form multilayer sheet.

Because these inventions are independent or distinct from the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Harold Knecht III on April 23, 2007 a provisional election was made without traverse to prosecute the invention of Group I,

claims 1-19. Affirmation of this election must be made by applicant in replying to this Office action. Claim 20 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 5-10 and 14-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Langer et al. (US Patent No. 6,458,418 B2).

Regarding Claim 1, Langer et al. reference teaches a multilayer mat comprising: a first intumescent layer, a non-intumescent layer, said non-intumescent layer comprising inorganic fibers (See Column 10, Line 1-6), and a second intumescent layer in the respective order (See Column 15, Line 60-64 – Three layer mat with adjacent layers having different compositions). The multilayer Mat of Langer et al. is structurally capable of performing the claimed intended use.

Regarding Claim 2, Langer et al. reference discloses the multilayer mat of claim 1, wherein the first intumescent layer and the second intumescent layer each comprise an intumescent material selected from vermiculite, expandable graphite, or combinations thereof (See Column 7, Line 66-67 and Column 8, Line 1-4)

Regarding Claim 5, Langer et al. reference discloses the multilayer mat of claim 1, wherein the inorganic fiber comprises a ceramic fiber having a bulk shrinkage no

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greater than 10 percent (See Ceramic fibers as a non-intumescent material– Column 5, Line 18-20 and aliminoborosilicate fibers as ceramic fibers with bulk shrinkage no greater than 10 percent – Column 8, Line 57-59)

Regarding Claim 6, Langer et al. reference discloses the multilayer mat of claim 1, wherein the inorganic fibers comprise glass fibers (See Column 10, Line 17-25)

Regarding Claim 7, Langer et al. reference discloses the multilayer mat of claim 1, wherein the inorganic fibers comprise glass fibers (See Column 10, Line 17-25) and both the first and second intumescent layers comprise vermiculite (See Column 7, Line 66-67 and Column 8, Line 1-4).

Regarding Claim 8, Langer et al. reference discloses the multilayer mat of claim 1, wherein the inorganic fibers comprise a ceramic fiber having a bulk shrinkage no greater than 10 percent (See aliminoborosilicate fibers as ceramic fibers with bulk shrinkage no greater than 10 percent - Column 8, Line 57-59) and both the first and second intumescent layers comprise vermiculite (See Column 7, Line 66-67 and Column 8, Line 1-4).

Regarding Claim 9, Langer et al. reference discloses the multilayer mat of claim 1, wherein two or more layers of the multilayer mat are bonded together with an adhesive, needle bonding, or stitching (Column 3, Line 24-27)

Regarding Claim 10, the Langer et al. reference teaches a pollution control device comprising:

a first metal housing (Langer et al. (11));

a pollution control element inside the first metal housing (Langer et al. (20)); and a multilayer mounting mat positioned between the first metal housing and the pollution control element (Langer et al. (30)). The pollution control device of Langer et al. is structurally capable of performing the claimed intended use.

Regarding Claim 14, Langer et al. reference discloses the pollution control device of claim 10, wherein the inorganic fibers comprise ceramic fibers having a bulk shrinkage less than 10 percent (See aliminoborosilicate fibers as ceramic fibers with bulk shrinkage no greater than 10 percent - Column 8, Line 57-59).

Regarding Claim 15, Langer et al. reference discloses the pollution control device of claim 10, wherein the inorganic fibers comprise glass fibers (See Column 10, Line 17-25).

Regarding Claim 16, Langer et al. reference discloses the pollution control device of claim 10, wherein the inorganic fibers comprise glass fibers and both the first and second intumescent layers comprise vermiculite (See Column 7, Line 66-67 and Column 8, Line 1-4).

Regarding Claim 17, Langer et al. reference discloses the pollution control device of claim 10, wherein the inorganic fibers comprise ceramic fibers having a bulk shrinkage less than 10 percent (See aliminoborosilicate fibers as ceramic fibers with bulk shrinkage no greater than 10 percent - Column 8, Line 57-59) and both the first and second intumescent layers comprise vermiculite (See Column 7, Line 66-67 and Column 8, Line 1-4).

Regarding Claim 18, Langer et al. reference discloses the pollution control device

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of claim 10, wherein the pollution control element is a diesel particulate filter (See Figure 2).

Regarding Claim 19, Langer et al. reference discloses the pollution control device of claim 10, wherein the mounting mat has sufficient holding pressure at operating temperatures both higher than and lower than a temperature suitable for expanding the first and second intumescent layers (Column 6, Line 32-34).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3-4 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langer et al. (US Patent No. 6,458,418 B2) in view of Merry (US Patent No. 4,929,429).

Regarding Claim 3 and 12, Langer et al. reference discloses the claimed inventions except for the non-intumescent layer having a thickness that is at least 50

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percent of a total thickness of the multilayer mat. Merry reference teaches that it is known to make a mounting mat of a non-intumescent layer much greater than the intumescent layer (See Column 4, Line 13-13-16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the mat of Langer by having relative thickness as taught by Merry, since Merry states at Column 3, Line 13-16 and Column 4, Line 13-16 that such a modification would create an effective mounting mat.

Regarding Claim 4 and 13, Langer et al. reference discloses the claimed inventions except for the non-intumescent layer is thicker than the first intumescent layer and the non-intumescent layer is thicker than the second intumescent layer. Merry reference teaches that it is known to make a mounting mat with the mounted thickness of the intumescent material not exceeding the mounted thickness of the ceramic layer (non-intumescent layer). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the mat of Langer by having relative thickness as taught by Merry, since Merry states at Column 3, Line 13-16 that such a modification would create an effective mounting mat.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Langer et al. (US Patent No. 6,458,418 B2) in view of Papadopoulos (US Patent No. 4,362,016)

Regarding Claim 11, Langer et al. reference discloses the pollution control device of claim 10 and its use on motor vehicles except which part of the motor vehicles the pollution device are employed on. It would have been obvious to one having ordinary skill in the art at the time the invention was made to install the pollution device on a

muffler in an automobile exhaust line as in Papadopoulos reference for reducing pollution of the atmosphere. (See Figure 1, Abstract and Column 2, Line 54-57).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy-Tram Nguyen whose telephone number is 571-270-3167. The examiner can normally be reached on M - F : 7:30 AM - 5:00 PM (Alternated Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HTN
4/26/07


WALTER D. GRIFFIN
SUPERVISORY PATENT EXAMINER